CITY OF NEW MEADOWS (PWS 3020012)
SOURCE WATER ASSESSMENT FINAL REPORT

May 9, 2001

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. This assessment is based on a land use inventory of the designated assessment area and sensitivity factors associated with the wells and aquifer characteristics.

This report, *Source Water Assessment for City of New Meadows, Idaho*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The City of New Meadows drinking water system consists of two ground water sources. Both wells have moderate ratings for hydrologic sensitivity and moderate ratings for system construction. The delineation capture zones encompass the downtown area as well as the agricultural areas surrounding town, which contributes the most points to the land use portion of the susceptibility analysis. These factors led to an overall moderate susceptibility to inorganic contamination, volatile organic contamination, synthetic organic contamination, and microbial contamination. Current water chemistry tests have recorded no significant problems with the well water, though the potential for contamination remains.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For the City of New Meadows, source water protection activities should focus on continuing or reviewing/revising the efforts outlined in the Wellhead Protection Ordinance No. 230-96 (1996) as well as protecting the wellheads and surface seals within the zone immediate to the wells. Seepage from the wastewater treatment lagoons should be monitored. Total coliform bacteria have been detected in the distribution system in 1995 and 1996. Disinfection practices should be implemented if microbial contamination becomes a concern. Practices aimed at reducing the leaching of agricultural chemicals should be implemented. Most of the source water protection designated areas are outside the direct jurisdiction of the City of New Meadows. Partnerships with state and local agencies and industry groups should be established and are critical to success. Due to the time involved with the movement of ground water, source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. Source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil and Water Conservation District, and the Natural Resources Conservation Service.

A community with a fully developed source water protection program will incorporate many strategies. For assistance in developing protection strategies please contact the Boise Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR CITY OF NEW MEADOWS, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are attached. The list of significant potential contaminant source categories and their rankings used to develop the assessment also is attached.

Background

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area and sensitivity factors associated with the wells and aquifer characteristics.

Level of Accuracy and Purpose of the Assessment

Since there are over 2,900 public water sources in Idaho, there is limited time and resources to accomplish the assessments. All assessments must be completed by May of 2003. An in-depth, site-specific investigation of each significant potential source of contamination is not possible. **Therefore, this assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system.**

The ultimate goal of the assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The Idaho Department of Environmental Quality (DEQ) recognizes that pollution prevention activities generally require less time and money to implement than treatment of a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Wellhead or source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The City of New Meadows wells are community wells that serve approximately 600 people with approximately 300 connections. The wells are located in Adams County, within the city limits of New Meadows, east of Highway 95 and north (Well #3) and south (Well #4) of Highway 55 (Figure 1). The public drinking water system for the City of New Meadows is comprised of two wells.

No significant water chemistry problems have been recorded in the public water system. Total coliform bacteria were detected in the distribution system in 1995 and 1996. The inorganic contaminants (IOCs) fluoride, sulfate, cyanide, selenium, iron, zinc, aluminum, and nitrate have been detected, but at levels below the Maximum Contaminant Level (MCL). No detections of volatile organic contaminants (VOCs) or synthetic organic contaminants (SOCs) have been recorded.

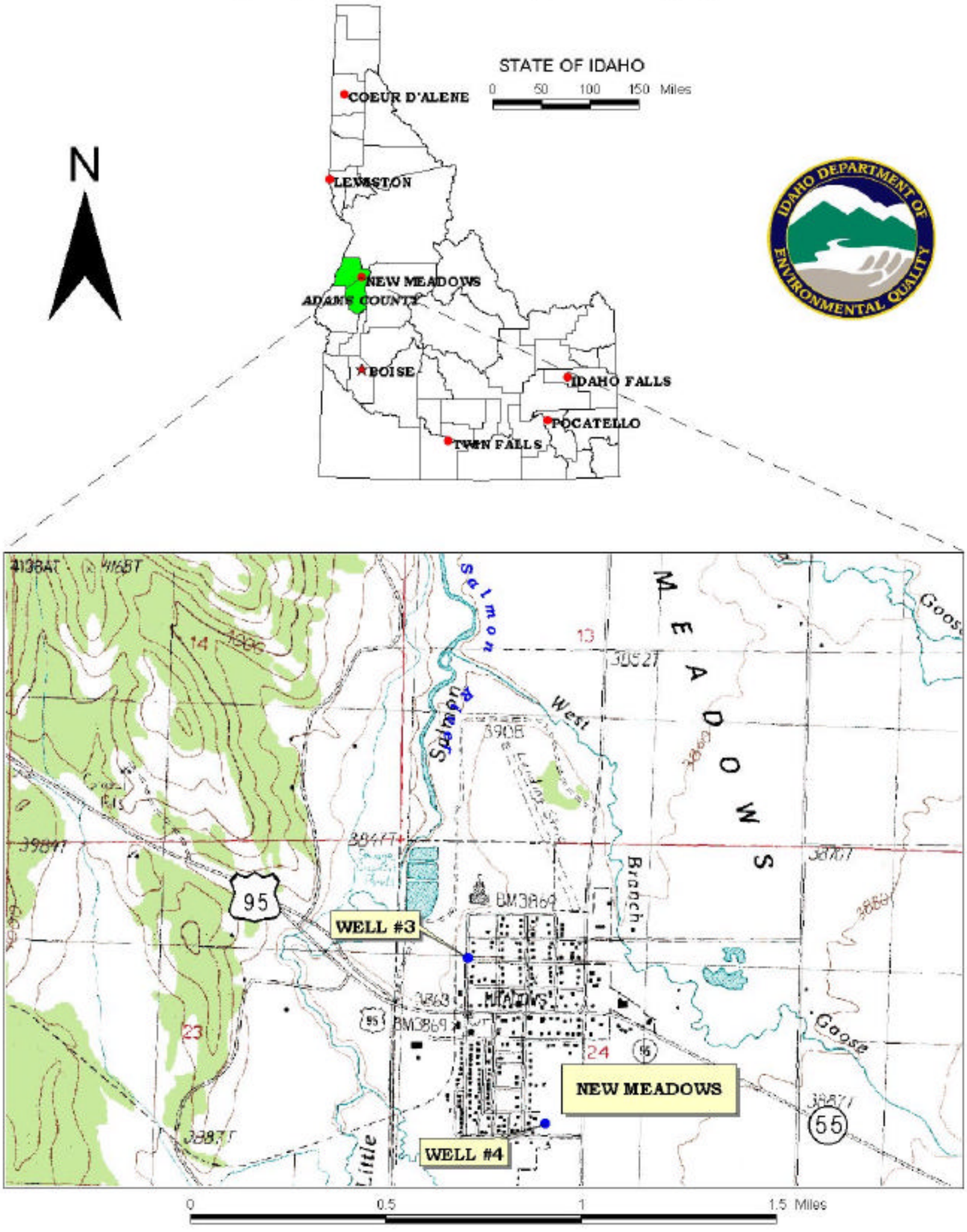
Defining the Zones of Contribution – Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time-of-travel (TOT) zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ used a refined computer model approved by the EPA in determining the 3-year (Zone 1B), 6-year (Zone 2), and 10-year (Zone 3) TOT for water associated with the Columbia River Basalt aquifer. The computer model used site-specific data, assimilated by DEQ from a variety of sources including the City of New Meadows well logs, local area well logs, and hydrogeologic reports summarized below.

The wells of the City of New Meadows system take their water from the fractured aquifer of the Columbia River Basalt. Geologic formations associated with basalt of the Columbia Plateau are known to yield as much as several hundred gallons per minute (gpm) (IDWA, 1966). The Columbia River basalts are dense, exhibit columnar jointing in many places, and are folded and faulted leading to many fracture zones where ground water may collect (Whitehead and Parliman, 1979). Basalt flows fracture at the surface as they cool. The fractures occur in the horizontal direction throughout the flow. Regional fractures hundreds or thousands of feet long may intersect several flows and have widely varying widths (Lum et al., 1990). The aquifer thickness ranges from 20 to 800 feet and the transmissivity ranges from 2,700 ft^2/day to 270,000 ft^2/day (Barker, 1979; Cohen and Ralston, 1980). Locally, multiple basalt flows underlie the town with a granite intrusion to the south. The numerous river channels locally control ground water flow direction. Regional ground water recharge appears to follow the Little Salmon River valley from south to north.

The delineated source water assessment areas for the City of New Meadows wells can best be described as the interaction of two sets of circles. Each 3-year TOT is specific to the well in question, but the wells share the 6-year and 10-year TOTs (Figures 2 & 3). The actual data used by DEQ in determining the source water assessment delineation areas are available upon request.

FIGURE 1. Geographic Location of the City of New Meadows



Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and from available databases.

The dominant land use outside the City of New Meadows area is grazing land and irrigated pasture. Land use within the immediate area of the wellheads consists of residences, commercial, and industrial facilities.

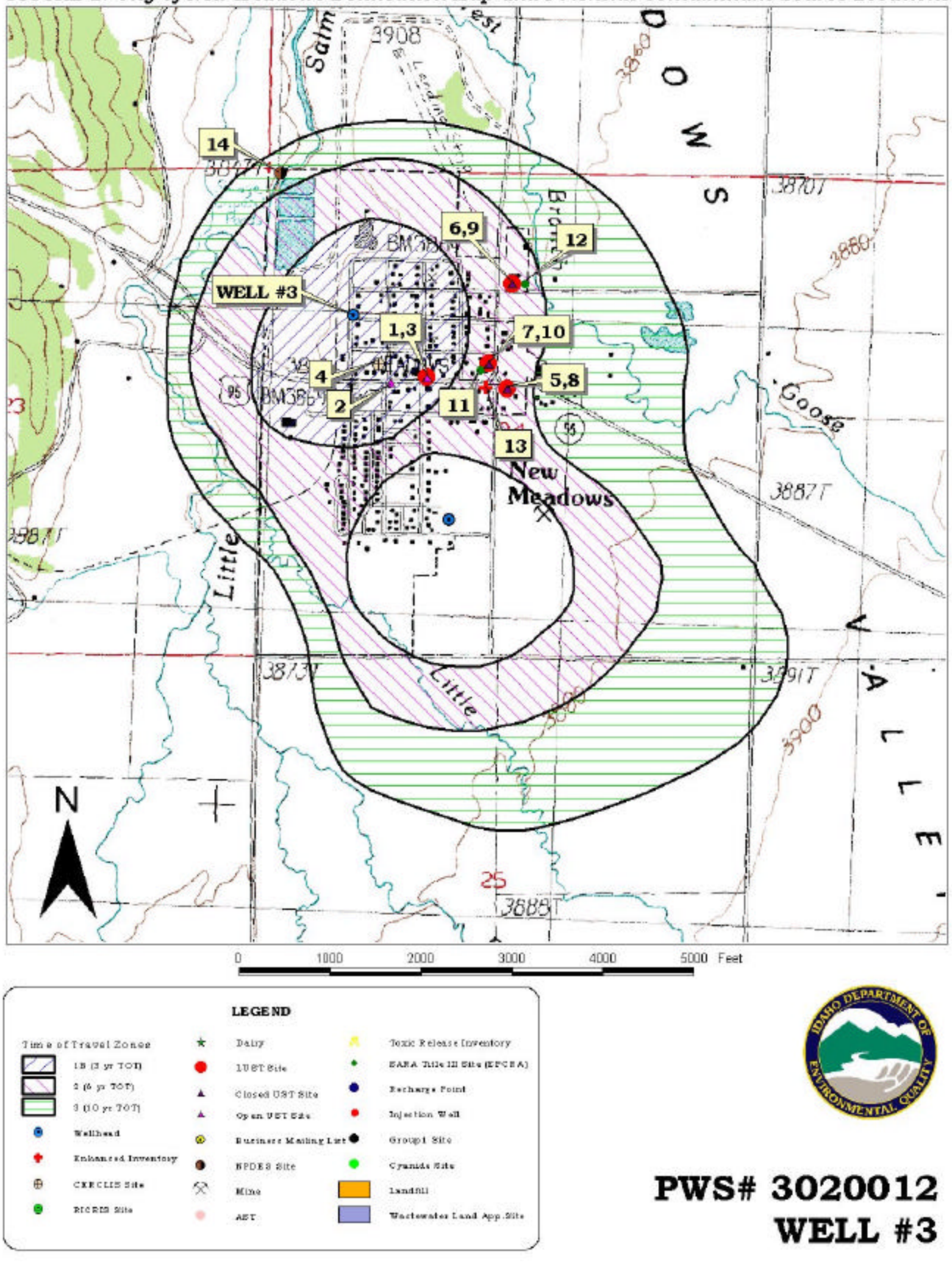
It is important to understand that a release may never occur from a potential source of contamination provided they are using best management practices. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination. These involve educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A two-phased contaminant inventory of the study area was conducted in February 2001. The first phase involved identifying and documenting potential contaminant sources within the City of New Meadows Source Water Assessment Area through the use of computer databases and Geographic Information System (GIS) maps developed by DEQ. The second, or enhanced, phase of the contaminant inventory involved contacting the operator to validate the sources identified in phase one and to add any additional potential sources in the area. This task was undertaken with the assistance of Robert R. Smith.

Well #3 has 14 potential contaminant sites in 10 locations in the delineated source water protection area (Table 1). Well #4 has 11 potential contaminant sites in 8 locations within its source water area (Table 2). Many of the sites are shared by the two wells because the 6- and 10-year TOTs are shared as well. In addition, Highways 55 and 95 cross the delineated areas. Finally, the wastewater treatment lagoons are located within the 6-year TOT. Figures 2 and 3 show the location of the potential contaminant sites relative to the wellheads.

FIGURE 2. City of New Meadows Delineation Map and Potential Contaminant Source Locations



LEGEND

Time of Travel Zones
- 1 (3 yr TOT)
- 2 (6 yr TOT)
- 3 (10 yr TOT)
- Wellhead
- Enhanced Inventory
- CERCLIS Site
- RCRIS Site
- Dairy
- LUST Site
- Closed UST Site
- Open UST Site
- Business Mailing List
- NPDES Site
- Mine
- AST
- Toxic Release Inventory
- SARA Title III Site (EPCRA)
- Recharge Point
- Injection Well
- Group1 Site
- Cyanide Site
- Landfill
- Wastewater Land App.Site

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY

PWS# 3020012
WELL #3

Table 1. City of New Meadows Well #3, Potential Contaminant Inventory

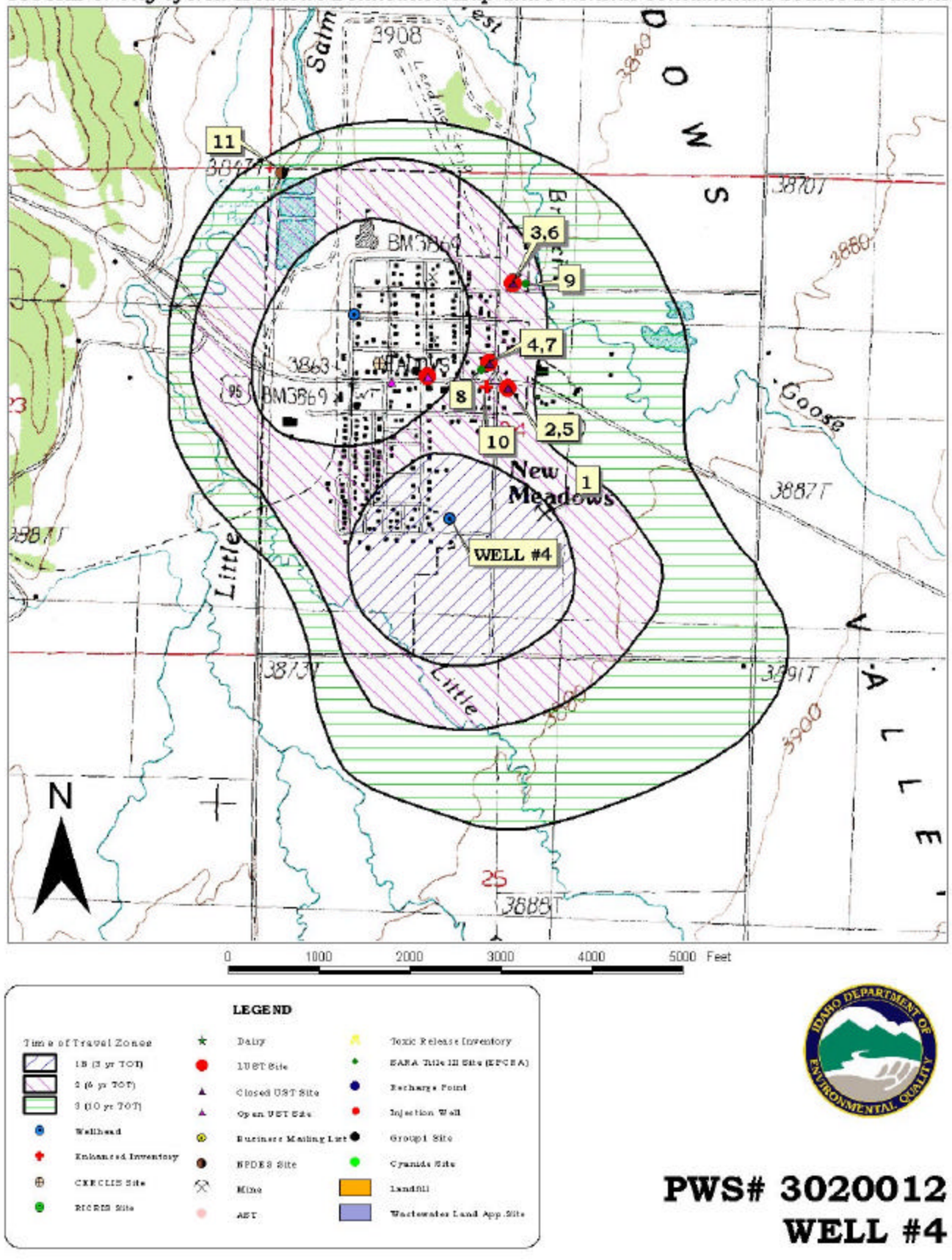
SITE #	Source Description[1]	TOT Zone[2] (years)	Source of Information	Potential Contaminants[3]
1	LUST – cleanup incomplete, impact: ground water	0-3	Database Search	VOC, SOC
2	UST – open	0-3	Database Search	VOC, SOC
3 (see map id #1)	UST - open	0-3	Database Search	VOC, SOC
4	CERCLA – fungicide spill	0-3	Database Search	IOC, SOC
5	LUST – cleanup incomplete, impact: ground water	3-6	Database Search	VOC, SOC
6	LUST – cleanup incomplete, impact: unknown	3-6	Database Search	VOC, SOC
7	LUST – cleanup incomplete, impact: ground water	3-6	Database Search	VOC, SOC
8 (see map id #5)	UST – closed	3-6	Database Search	VOC, SOC
9 (see map id #6)	UST – closed	3-6	Database Search	VOC, SOC
10 (see map id #7)	UST – closed	3-6	Database Search	VOC, SOC
11	SARA	3-6	Database Search	VOC, SOC
12	SARA	3-6	Database Search	VOC, SOC
13	UST – abandoned	3-6	Enhanced Inventory	VOC, SOC
	Treatment Lagoons	3-6	Database Search	IOC, VOC, SOC
14	NPDES site	6-10	Database Search	IOC
	Highway 55	0-10	GIS map	IOC, VOC, SOC, Microbial
	Highway 95	0-10	GIS map	IOC, VOC, SOC, Microbial

[1] LUST = leaking underground storage tank, UST = underground storage tank,
CERCLA = Comprehensive Environmental Response Compensation and Liability Act,
SARA = Superfund Amendments and Reauthorization Act
NPDES = National Pollutant Discharge Elimination System

[2] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead

[3] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

FIGURE 3. City of New Meadows Delineation Map and Potential Contaminant Source Locations



PWS# 3020012
WELL #4

Table 2. City of New Meadows Well #4, Potential Contaminant Inventory

SITE #	Source Description[1]	TOT Zone[2] (years)	Source of Information	Potential Contaminants[3]
1	Sand and Gravel site	0-3	Database Search	IOC
2	LUST – cleanup incomplete, impact: ground water	3-6	Database Search	VOC, SOC
3	LUST – cleanup incomplete, impact: unknown	3-6	Database Search	VOC, SOC
4	LUST – cleanup incomplete, impact: ground water	3-6	Database Search	VOC, SOC
5 (see map id #2)	UST – closed	3-6	Database Search	VOC, SOC
6 (see map id #3)	UST – closed	3-6	Database Search	VOC, SOC
7 (see map id #4)	UST – closed	3-6	Database Search	VOC, SOC
8	SARA	3-6	Database Search	VOC, SOC
9	SARA	3-6	Database Search	VOC, SOC
10	UST – abandoned	3-6	Enhanced Inventory	VOC, SOC
	Treatment Lagoons	3-6	Database Search	IOC, VOC, SOC
11	NPDES site	6-10	Database Search	IOC
	Highway 55	3-10	GIS map	IOC, VOC, SOC, Microbial
	Highway 95	3-10	GIS map	IOC, VOC, SOC, Microbial

[1] LUST = leaking underground storage tank, UST = underground storage tank,
CERCLA = Comprehensive Environmental Response Compensation and Liability Act,
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NPDES = National Pollutant Discharge Elimination System

[2] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead

[3] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Section 3. Susceptibility Analyses

The water system's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

The hydrologic sensitivity of a well is dependent upon four factors: the surface soil composition, the material in the vadose zone (between the land surface and the water table), the depth to first ground water, and the presence of a 50-foot thick fine-grained zone above the producing zone of the well. Slowly draining soils such as silt and clay typically are more protective of ground water than coarse-grained soils such as sand and gravel. Similarly, fine-grained sediments in the subsurface and a water depth of more than 300 feet protect the ground water from contamination.

Hydrologic sensitivity was moderate for the two wells (Table 3). This reflects the nature of the soils being in the poorly-drained to moderately-drained class which can inhibit downward movement of contaminants. The vadose zone (zone from land surface to the water table) is made predominantly of sand and gravel, and the first ground water being located within 300 feet of ground surface. These factors may not hinder the downward movement of contaminants. The wells also have greater than 50 feet of laterally extensive low permeability units that could retard downward movement of contaminants.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. The City of New Meadows drinking water system consists of two wells that extract ground water for residential uses. The well system construction scores were moderate for both wells.

A sanitary survey for Well #3 was completed in July 1994 to determine if the well was in compliance with wellhead and surface seal standards. The well has a downturned, screened casing vent at least 18 inches above the floor and has a sanitary seal. The sanitary survey was conducted before Well #4 was constructed, so DEQ was unable to determine if the wellhead and sanitary seal were in compliance and whether the well was protected from surface flooding.

The Well #3 log shows that the annular seal extends to 20 feet below ground surface (bgs) into a water producing sand and gravel layer. The well has 0.375-inch thick, 16-inch diameter steel casing from ground surface to the depth of the well at 118 feet bgs into a sticky blue clay unit, and 0.281-inch thick, 12-inch diameter casing from ground surface to 563 feet bgs into a water bearing basalt layer. There is uncased hole from 563 feet bgs to 610 feet bgs. The water table was identified at 25 feet bgs. Factory perforated pipe

was installed from 157 feet bgs to 557 feet bgs. Basalt, interspersed with some clay layers, was recorded from 100 feet bgs to the bottom of the hole. Though the well may have been in compliance with standards when it was drilled in 1969, current PWS well construction standards are more stringent.

The Well #4 log shows that the annular seal extends to 160 feet bgs into a basalt layer. The well uses 0.375-inch thick, 12-inch diameter casing extending to 160 feet bgs, and 0.250-inch thick, 10-inch diameter casing extending from 2 feet bgs to 280 feet bgs into fractured black basalt. Uncased hole extends to 460 feet bgs. The water table was identified at 10 feet bgs. Perforated pipe was installed from 180 feet bgs to 280 feet bgs. Basalt, interspersed with some clay layers, was recorded from 150 feet bgs to the bottom of the hole. The well is not in compliance with current PWS well construction standards.

The IDWR Well Construction Standards Rules (1993) require all PWSs to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works* (1997) during construction. Table 1 of the *Recommended Standards for Water Works* (1997) lists the required steel casing thickness' for various diameter wells. 12-inch diameter casing on wells requires a casing thickness of at least 0.375-inches. Ten-inch diameter casing on wells requires a casing thickness of at least 0.365-inches. Neither well meets this requirement.

Potential Contaminant Sources and Land Use

The wells rated moderate for IOCs, VOCs, and SOCs, and low for microbial contaminants. Agricultural land uses, commercial businesses with USTs, and major transportation corridors in the delineated source areas contributed the largest numbers of IOC, VOC, SOC, and microbial points to the contaminant inventory rating.

Final Susceptibility Ranking

A detection above a drinking water standard MCL or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well despite the land use of the area because a pathway for contamination already exists. If the area within 50 feet of the wellhead (Zone 1A) is not protected from contamination, then a well will automatically be rated high. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0 to 3-year time of travel zone (Zone 1B) and a large percentage of agricultural land contribute greatly to the overall ranking. In terms of total susceptibility, both wells rate moderate for all categories of contaminants.

Table 3. Summary of City of New Meadows Susceptibility Evaluation

Well	Susceptibility Scores[1]									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	Final Susceptibility Ranking			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Well #3	M	M	M	M	L	M	M	M	M	M
Well #4	M	M	M	M	L	M	M	M	M	M

[1]**H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility,**
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Susceptibility Summary

With moderate hydrologic sensitivity and moderate to low land use scores, the final susceptibility of the two wells to each type of contaminant was moderate.

No significant water chemistry problems have been recorded in the public water system. Total coliform bacteria were detected in the distribution system in 1995 and 1996. The IOCs fluoride, sulfate, cyanide, selenium, iron, zinc, aluminum, and nitrate have been detected, but at levels below the MCL. No detections of VOCs or SOCs have been recorded. Though the delivered water is currently safe (moderate susceptibility), there is the potential for contamination from the local point sources and from agricultural practices.

Section 4. Options for Source Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective source water protection program is tailored to the particular local source water protection area. A community with a fully developed source water protection program will incorporate many strategies. For the City of New Meadows, source water protection activities should focus on continuing or reviewing/revising the efforts outlined in the Wellhead Protection Ordinance No. 230-96 (1996) as well as protecting the wellheads and surface seals within the zone immediate to the wells. Seepage from the wastewater treatment lagoons should be monitored. Total coliform bacteria have been detected in the distribution system in 1995 and 1996. Disinfection practices should be implemented if microbial contamination becomes a concern. Practices aimed at reducing the leaching of agricultural chemicals should be implemented. Some of the designated source water protection areas are outside the direct jurisdiction of the City of New Meadows. Partnerships with state and local agencies and industry groups should be established and are critical to success. Continued vigilance in keeping the well protected from surface flooding can also keep the potential for contamination reduced. Due to the time involved with the movement of ground water, wellhead protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. Source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil and Water Conservation District, and the Natural Resources Conservation Service.

Assistance

Public water supplies and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Boise Regional DEQ Office (208) 373-0550

State DEQ Office (208) 373-0502

Website: http://www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Melinda Harper, Idaho Rural Water Association, at (208) 373-7001 (mharper@idahoruralwater.com) for assistance with drinking water protection (formerly wellhead protection) strategies.

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund≅ is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

References Cited

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Lum II, W.E., J.L. Smoot, and D.R. Ralston, 1990. Geohydrology and Numerical Model Analysis of Ground-water Flow in the Pullman-Moscow Area, Washington and Idaho.

Whitehead, R.L. and D.J. Parliman, 1979. A Proposed Ground Water Quality Monitoring Network for Idaho. U.S. Geological Survey (prepared in cooperation with Idaho Department of Health and Welfare, Division of Environment), Water Resources Investigations, Open-File Report 79-1477, 67 p.

Attachment A

City of New Meadows Susceptibility Analysis Worksheet

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

Ground Water Susceptibility Report Public Water System Name : NEW MEADOWS CITY OF Well# : WELL #3

Public Water System Number 3020012 05/09/2001 9:37:28 AM

1. System Construction		SCORE
Drill Date	11/24/1969	
Driller Log Available	YES	
Sanitary Survey (if yes, indicate date of last survey)	YES	1994
Well meets IDWR construction standards	NO	1
Wellhead and surface seal maintained	YES	0
Casing and annular seal extend to low permeability unit	NO	2
Highest production 100 feet below static water level	YES	0
Well located outside the 100 year flood plain	YES	0
Total System Construction Score		3

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	YES	0
Vadose zone composed of gravel, fractured rock or unknown	YES	1
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	YES	0
Total Hydrologic Score		2

3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED PASTURE	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		1	1	1	1

Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	3	4	5	2
(Score = # Sources X 2) 8 Points Maximum		6	8	8	4
Sources of Class II or III leacheable contaminants or	YES	3	4	3	
4 Points Maximum		3	4	3	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		9	12	11	4

Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Land Use Zone II	25 to 50% Irrigated Agricultural Land	1	1	1	
Potential Contaminant Source / Land Use Score - Zone II		4	4	4	0

Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1	

Total Potential Contaminant Source / Land Use Score - Zone III	3	3	3	0
Cumulative Potential Contaminant / Land Use Score	17	20	19	5
4. Final Susceptibility Source Score	8	9	9	7
5. Final Well Ranking	Moderate	Moderate	Moderate	Moderate

Ground Water Susceptibility Report Public Water System Name : NEW MEADOWS CITY OF Well# : WELL #4

Public Water System Number 3020012 05/09/2001 9:37:42 AM

1. System Construction		SCORE
Drill Date	05/27/1996	
Driller Log Available	YES	
Sanitary Survey (if yes, indicate date of last survey)	NO	0
Well meets IDWR construction standards	NO	1
Wellhead and surface seal maintained	NO	1
Casing and annular seal extend to low permeability unit	YES	0
Highest production 100 feet below static water level	YES	0
Well located outside the 100 year flood plain	NO	1
	Total System Construction Score	3

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	YES	0
Vadose zone composed of gravel, fractured rock or unknown	YES	1
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	YES	0
	Total Hydrologic Score	2

3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED PASTURE	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		1	1	1	1
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	1	0	0	0
(Score = # Sources X 2) 8 Points Maximum		2	0	0	0
Sources of Class II or III leacheable contaminants or	YES	4	0	0	
4 Points Maximum		4	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land	4	4	4	4
Total Potential Contaminant Source / Land Use Score - Zone 1B		10	4	4	4
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	2	2	2	
Potential Contaminant Source / Land Use Score - Zone II		5	5	5	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1	
Total Potential Contaminant Source / Land Use Score - Zone III		3	3	3	0

Cumulative Potential Contaminant / Land Use Score	19	13	13	5
4. Final Susceptibility Source Score	9	8	8	7
5. Final Well Ranking	Moderate	Moderate	Moderate	Moderate